

What is claimed:

1. An apparatus for treating tissue with electrical energy, comprising:

a substantially rigid cannula comprising proximal and
5 distal ends defining a longitudinal axis therebetween, and
a lumen extending between the proximal and distal ends;

an array of electrodes disposed within the lumen of
the cannula and deployable from the distal end of the
cannula substantially perpendicular to the longitudinal
10 axis, thereby substantially defining a plane.

2. The apparatus of claim 1, wherein the electrodes
comprise substantially flat tines comprising a width lying
generally within the plane when the electrodes are deployed
15 from the cannula.

3. The apparatus of claim 1, wherein each of the
electrodes comprises a distal portion that is substantially
straight and an intermediate portion that is curved when
20 the electrodes are deployed from the cannula such that each
distal portions lies substantially within the plane when
the electrodes are deployed from the cannula.

4. The apparatus of claim 1, wherein each of the electrodes terminates in a substantially blunt distal tip.

5. The apparatus of claim 1, wherein the cannula
5 terminates in a substantially blunt distal tip.

6. The apparatus of claim 1, wherein the cannula terminates in a sharpened distal tip.

10 7. The apparatus of claim 1, wherein the electrodes are biased to extend in a direction substantially perpendicular to the longitudinal axis, the electrodes being deflectable into a compressed configuration when retracted into the lumen of the cannula.

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8. A method for treating a tissue structure using a cannula comprising an array of electrodes deployable from a distal end thereof, the method comprising:

advancing the electrodes from the distal end of the
20 cannula such that distal portions of the electrodes lie substantially within a plane;

placing the distal portions of the electrodes in contact with a surface of the tissue structure; and

delivering electrical energy from the electrodes to
the surface to treat the tissue structure.

9. The method of claim 8, wherein the tissue
5 structure comprises a pleura.

10. The method of claim 9, wherein the surface
comprises a tumor.

10 11. The method of claim 10, further comprising
exposing the pleura before placing the distal portions of
the electrodes in contact with the surface of the pleura.

12. The method of claim 10, wherein the electrical
15 energy is delivered for sufficient time to destroy at least
a portion of the tumor.

13. The method of claim 8, wherein the electrical
energy is delivered for sufficient time to create a lesion
20 in the surface.

14. The method of claim 8, wherein the electrical energy is delivered for sufficient time to cause coagulation of the surface.

5 15. A method for treating a pleura using a cannula comprising a plurality of electrodes deployable from a distal end thereof, the method comprising:

advancing the plurality of electrodes from the distal end of the cannula such that distal portions of the
10 electrodes lie substantially within a plane;

placing the distal portions of the electrodes in contact with the pleura; and

delivering electrical energy from the electrodes to treat the pleura.

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16. The method of claim 15, further comprising exposing the pleura before placing the distal portions of the electrodes in contact with the pleura.

20 17. The method of claim 15, wherein the pleura comprises cancerous tissue.

18. The method of claim 15, wherein the electrical energy is delivered for sufficient time to cause necrosis of at least a portion of the pleura.

5 19. The method of claim 15, wherein the electrical energy is delivered for sufficient time to cause coagulation of the pleura.

20. The method of claim 15, further comprising
10 inserting the distal end of the cannula into a thoracic cavity before advancing the plurality of electrodes from the distal end of the cannula.